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Poster Overview

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[P270] FREQUENT BIOFILM PRODUCTION BY STAPHYLOCOCCUS EPIDERMIDIS CAUSING INFECTION IN PETS OR COLONIZING VETERINARY STAFF

Sofia Santos Costa¹, Cláudia Mineiro Santos², Miguel Viveiros³, Maria Constança Pomba⁴, Isabel Couto⁵

¹Instituto de Higiene e Medicina Tropical, Universidade Nova de Lisboa, Lisbon, Portugal

²Instituto de Higiene e Medicina Tropical (Ihmt), Universidade Nova de Lisboa, Lisbon, Portugal

³Unidade de Microbiologia Médica, Instituto de Higiene E Medicina Tropical, Universidade Nova de Lisboa, Loba Health and Tropical Medicine, Ihmt/Unl, Portugal, Ihmt/Unl, Portugal, Lisboa, Portugal

⁴Antibiotic Resistance Laboratory, Ciisa, Faculty of Veterinary Medicine, University of Lisbon, Lisbon, Portugal

⁵Unidade de Microbiologia Médica, Global Health and Tropical Medicine (Ghtm), Instituto de Higiene e Medicina Tropical, Universidade Nova de Lisboa, Lisboa, Portugal, Lisbon, Portugal

Aim: To characterize biofilm production by *Staphylococcus epidermidis* isolates causing infection in pets or colonizing veterinary staff.

Methods: The study collection comprised 129 *S. epidermidis* isolates, from nasal colonization of veterinary staff (n = 112) and causing infection in cats and dogs (n = 17). The capacity to produce biofilm was evaluated by the Crystal Violet (CV) method, performed in flat-bottom 96-well polystyrene plates and biofilm production was categorized (as strong, moderate or weak) according to specific ranges of 570 nm optical density. The biofilm producer *S. epidermidis* RP62A was used as control in each assay. Biofilm-associated genes *icaAD* and *aap* were screened by PCR.

Results: Amongst the human commensal isolates, the CV method enabled the identification of 66/112 (58.9 %) biofilm producers, of which 34/66 (51.5 %) were strong or moderate producers. In the group of pet infection isolates, 16/17 isolates (94.1 %) produced biofilm, of which 12/16 (75.0%) were strong or moderate producers. The majority of the isolates carried *icaAD* and/or *aap* genes. The genotype *icaAD⁺aap⁻* was associated with non-biofilm production whereas genotype *icaAD⁺aap⁺* was linked to strong biofilm production. No correlation was found between any biofilm producing phenotype and the genotypes *icaAD⁺aap⁻* *icaAD⁺aap⁺*.

Conclusion: These results evidence a high frequency of biofilm production by *S. epidermidis* either causing infection in pets or colonizing humans in close contact with them. The findings also highlight the importance of biofilm-associated genes other than *ica* in the biofilm phenotype.

These results were partially presented at ECCMID2018 (Madrid, Spain, April 21-24 2018).